REMARKS

I. Status of Claims

Claims 1-76, 81, 82, 85, 95, 96, 108, and 162-164 were previously cancelled.

Claims 165-174 were withdrawn as allegedly being directed to non-elected subject matter.

Without prejudice or disclaimer, claims 78, 83, 86, 109,110, 112, 113, 115-122, 125-128, 132-149, 151-153, and 156 have been cancelled, and claims 77, 84, 111, 114, 123, 129-131, 150, 155, 165, and 174 have been amended, herein. Support for those amendments can be either found in the claims as originally filed or in the specification as originally filed, for example, the variants at pages 36-40. There is no issue of new matter.

Claims 77, 79, 80, 84, 87-94, 97-107, 111, 114, 123, 129-131, 150, 154, 155, and 157-161 are now pending and subject to examination in this application.

II. Claim Rejections - 35 U.S.C. §103

Claims 77-80, 83-94, 97-107, and 109-161 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Anton (U.S. Patent No. 6,153,206) in view of Frechet (U.S. Patent No. 6,663,855) and Melchiors (U.S. Application Publication No. 2002/0151638) for reasons as set forth at page 2 of the Advisory Action. Applicants respectfully disagree and traverse.

Claim 77 is drawn to a makeup composition for keratin materials comprising at least one linear block ethylenic polymer in a cosmetically acceptable organic liquid medium. That claim further includes numerous functional and structural limitations that

the Office apparently has disregarded. The other independent claims recite similar limitations.

Looking first at the linear block ethylenic polymer, the claim recites that it comprises a first block, a second block, and an intermediate block that connects the first block and the second block. And while that intermediate block is said to be "a random copolymer block," its function is far from random. Rather, as noted in the specification and in the claims, as amended, that intermediate block serves to join two polymers that are otherwise mutually incompatible. *See* lines 22-26 at page 9, and lines 1-24 at page 10, of the specification as filed. That is, a blend formed from a polymer corresponding to the first block and from a polymer corresponding to the second block is not miscible in the organic liquid that is the majority amount by weight of the organic liquid medium of the composition, at room temperature (25°C) and atmospheric pressure whereas the resulting linear block ethylenic polymer is miscible in that organic liquid as demonstrated in the attached documents. *See*, attached Annex I and II.

Specifically, a composition comprising poly(isobomyl acrylate/iso- bornyl methacrylate) (50/50, 35% by weight) and poly(isobutyl acrylate) (15% by weight) in isododecane (50% by weight) was prepared. As shown in Annex I, that composition was not homogenous and indeed, had multiple phases. In contrast, if those two polymer are instead coupled via an intermediate block such as recited in the pending claims, a uniform and homogenous composition results. Specifically, Annex II shows a composition comprising a linear block copolymer having a first block poly(isobornyl acrylate/isobornyl methacrylate), a second block poly(isobutyl acrylate) and an intermediate block poly(isobornyl acrylate/isobornyl methacrylate/isobutyl acrylate)

(52% by weight) in isododecane. None of the cited references teaches or suggests that a random intermediate block can link two otherwise incompatible blocks to render the resulting composition miscible.

In addition, the linear block ethylenic polymer has a polydispersity ("PDI") of greater than or equal to 2.5. As the Office is aware, the polydispersity index (PDI) is a structural attribute of a polymer and indeed, is a measure of variability, as is discussed below. Notably, two polymers made of the same monomers can have different PDIs. The more heterogeneous the weights, the greater the PDI. Thus, a higher PDI reflects greater variability between individual polymer molecules.

PDI as a measure of variability is illustrated in a simple example below. In that example, an arbitrary monomer, represented as a dash, is used which has a molecular weight of *x* per residue. Coefficients are rounded to the hundredths position where applicable.

Representative individual polymer molecules	-------- -------- -------- --------	--- ----- ---------- ----------	-- --- ---- ----------
Degree of heterogeneity	none	some	more
Mn	8 *x*	8 *x*	8 *x*
Mw	8 *x*	10.31 *x*	17.44 *x*
PDI	1	1.29	2.18

The first column shows a polymer whose individual polymer molecules have identical lengths and weights. This polymer has a PDI of unity. The second column

[1] The word "polymer" is used in a collective sense; when individual polymer molecules are discussed herein, they are explicitly referred to as such.

shows a polymer with the same number-average mass Mn as the first column, but wherein there is some heterogeneity in the length and therefore the weight of individual polymer molecules. As discussed above, Mw is greater than Mn for this polymer, and the PDI is consequently greater than unity. In the third column, the number-average mass Mn of the polymer remains the same as in the other columns, but the length and weight heterogeneity is greater still, resulting in higher Mw and PDI values. Thus, even if polymers are made of the same monomer, they can have different PDIs. If they have different PDIs, the polymers are not structurally identical and they do not necessarily have the same properties.

Applicants thus maintain that polydispersity is not simply a distinction without a difference. Rather, the high polydispersity of the linear block ethylenic polymer, as recited in the pending claims, has a direct effect on the properties of the resulting make up composition for keratin materials. In an effort to expedite prosecution, a Declaration under 37 C.F.R. § 1.132 in which a polymer according to the disclosure and within the scope of claim 77 is compared to a polymer with a lower PDI is attached hereto. Despite similar monomer content, the polymer according to the disclosure exhibited less brittleness and viscosity than the comparative polymer. Applicants respectfully submit that those beneficial properties would not have been predictable to one of ordinary skill in the art because none of the cited references discloses such properties that are attributable to the PDI

The Declaration shows that the polymer according to the disclosure differs from what the prior art would lead one of ordinary skill to expect. The lack of brittleness relative to the comparative polymer can render the polymer of the disclosure more

suitable as a make up composition for keratin materials, because the film formed by the polymer is less prone to cracking. Furthermore, that lack of brittleness is a result of the high PDI. That is, being composed of a linear block ethylenic polymer having a high PDI, the make up composition for keratin materials comprises polymers that are more heterogeneic, i.e., some of the polymers are very long and others are substantially shorter, as illustrated in the table above. Applicants believe that it is those shorter polymers that contribute to the lack of brittleness in that they serve as plasticizers.

To be sure, Melchiors teaches that polydispersity values of 2.9-3.5 are acceptable. However, that teaching is in the context of hydroxyl-functional copolymers. The present claims, as amended, do not encompass such hydroxyl-functional copolymers. Melchiors does not teach or suggest any other polymers having high PDI as well as the other properties described herein.

Furthermore, Claim 77 recite that the linear block ethylenic polymer is non-elastomeric. Frechet indicates that its polymers **are** elastomeric, stating, e.g., "Cosmetic or personal care compositions, such as for styling hair, comprise a thermoplastic **elastomer** which is a block copolymer . . ." *See* Abstract and col. 3, lines 26-29, of Frechet. Thus, the non-elastomeric polymers of claim 77 are distinct from the polymers of Frechet because elastomericity is a fundamental and non-optional feature of the latter.

Finally, as the Office is aware, polymers are complex molecules in that their structure and function varies with both monomer content and the polymerization process. The block polymers described in the subject application are prepared using free radical polymerization. In contrast, Anton uses group transfer polymerization (GTP)

technique to prepare the polymers. *See* lines 63-65, col. 5, and lines 65-67, col. 11. GTP is a living polymerization techniques known to prepare polymers with polydispersity index close to 1. As such, the polymers described in Anton are prepared via different processes from those disclosed in the subject application. Thus, even if an Anton polymer had the same monomer content as one of the block copolymers recited in the pending claims, those polymers would have different properties as a result of the use of the different processes.

In sum, none of the cited references describes linear block ethylenic polymers as recited in the pending claims. That is, those polymers comprise a random intermediate block that renders the resulting block polymer miscible in a liquid in which the mixture of the individual polymers corresponding to the two blocks are immiscible. Further, none of the cited references would have led a skilled artisan to use linear block ethylenic polymers having a PDI of greater than or equal 2.5 as recited in the pending claims. None of the cited references describe the preparation of non-elastomeric linear block ethylenic polymers as claimed herein.

For the foregoing reasons, Applicants respectfully request that the rejection be withdrawn.

Conclusion

In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our Deposit Account No. 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, L.L.P.

Dated: April 26, 2010

By: 

Wen Li
Reg. No. 62,185
(650) 849-6649